CMAT

(Crash Mapping Analysis Tool)

Dates Available: 2002 (v 2.0); 2005 (v 3.4.2)**;** 2006 (v 3.6) **Price:** No cost to user

Developed By: Iowa State University / CTRE **Data Source:** Iowa statewide crash data

License Requirements: A statewide site license is paid for by the Iowa DOT
Hardware Requirements: Pentium processor, 512 MB RAM, 500 MB hard drive space
System Requirements: Windows 95, 98, ME, 2000, XP Home, XP Professional, NT
Computer Skills Required: Basic computer skills
Target Audience: General user
Training: No cost (contact Robert Schultz: RLSPC@schultzgroup.org)

Product Description

CMAT can be used as a "stand alone" crash analysis tool for crash data from 2001 to currently available data. CMAT provides 15 crash selection tools (point, rectangle, polygon, route segment, plus 11 "finder" pick list crash selection options).

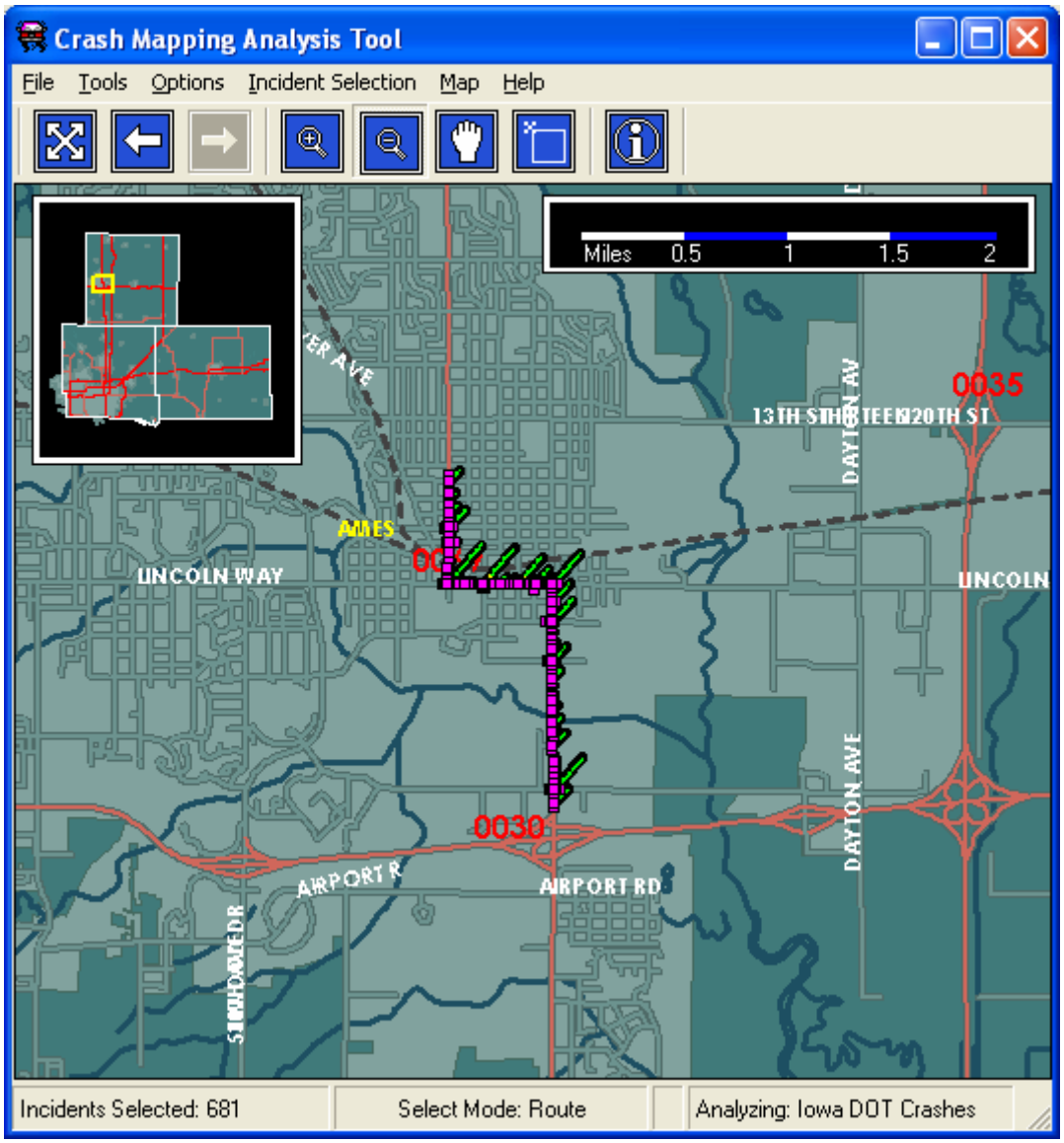
CMAT has 13 filters to limit selected crashes by a variety of criteria (see below).

CMAT has 11 vertical bar charts that, when chosen, are automatically created upon selecting crashes.

CMAT also provides printable maps (with dots representing individual crashes or with crash dots in a specific area "stacked" with the crash severity indicated by color coded dots), printable vertical bar charts, pre-formatted summary reports, and a crash by crash listing of all selected crashes.

With the above features, CMAT allows a user to select crashes using specific criteria and then produce a map showing the location of those crashes as well as a variety of charts and pre-formatted reports in a matter of seconds.

Map With Stacked Crashes



Strengths: Ease of use; automatic charts; crash dots are displayed individually or stacked on a printable map; map can be saved as a .bmp or .jpg; crashes can be exported as .shp file; dynamically linked map, spatial distance settings, bar charts, filters, and easy to create reports.

Weakness: Not all data elements of the crash report can be queried; cannot rank high incident locations, no collision diagramming capabilities.

Installation: Easy to install; uses an installation wizard; is server enabled.

CMAT Features

Inset Map: A small map of your entire jurisdiction (county or counties) shows your current location on the map by means of a yellow rectangle when you are zoomed in to a specific area.

Tools: Manual Crash Selection

Select crash incidents manually by a variety of methods:
Point / Rectangle / Polygon / Route Segment
Save a manual crash selection query (using a file name and a description of the query).
Load or Delete a specific manual crash selection query from a menu of "Saved" queries.
Load any one of Iowa's public school districts as a jurisdiction from "Saved" queries.

Tools: Finders (Select crash incidents from a pick list of options)

Select crash incidents by a variety of menu options:
County / Counties (any or all counties) / Township / City / Map coordinate / Milepost / Intersection with Intersection / Intersection with Rail / Intersection with River / DOT Case Number / Law Enforcement Case Number / ALAS Node Number

Tools: **Filters** (Limit selected crash incidents by using a variety of "floating palate" filters)

Display or hide each filter tool palate (city, county, major cause, surface condition, etc.)
Select crashes for one or more years, months, days of the week, days of the month, time
Select crashes by "Severity" (Fatalities / Injuries / Property Damage Only)
Select crashes by: Manner of Crash, Type of Roadway, or Drug / Alcohol related

Tools: **Info Tool** instant view of 49 data elements for individual crashes

Reports: (Four formatted reports, a Map, and Info Tool can be displayed or printed)

Abbreviated (six data elements) / Detail (30 data elements) / Major Cause / Driver & Time
A map and a bar charts are viewable on the screen and can also be printed.

Data Elements: (The following 30 data elements are found in the Detail report)

DOT case number, date, time, county, city, literal description of crash location, major cause, roadway type, crash severity, injuries (fatalities, major injuries, minor injuries, possible injuries, unknown injuries), manner of crash, surface condition, light condition, weather condition, drug or alcohol involved, property damage amount, vehicle (unit) information (initial travel direction, vehicle action, vehicle configuration, driver age, driver gender, driver condition, driver contributing circumstances 1 and 2, fixed object).

Export : CMAT can save selected crashes as shape files to be used with other GIS software.